DOCUMENT RESUME

ED 429 474 HE 031 849

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TITLE Strategies for Universities in the 21st Century.
PUB DATE 1998-10-00
NOTE 16p.; Paper presented at the Annual Meeting of the Comparative Education Society of Asia (2nd, Beijing, China, October 7, 1998).
PUB TYPE Opinion Papers (120) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Attitudes; Educational Change; Educational Quality; *Educational Trends; Futures (of Society); Global Approach; *Higher Education; Leadership; Research; School Restructuring; Social Change; *Strategic Planning; *Universities

ABSTRACT

This paper discusses the future of higher education in the United States, focusing on societal changes and strategies for universities in coming decades. It examines population aging, shifting demographics, life-style and other social changes, and workforce changes such as the growth of the service sector in the economy, noting their effects on higher education. The paper reviews the growth of community and junior colleges, and the impact of rising tuition and budget constraints on public institutions. It suggests that higher education institutions focus on quality; restructure to become more competitive; internationalize and globalize their campuses and curriculum; emphasize technology, knowledge production, and knowledge availability; develop and retain intellectual assets; and assert the importance of moral leadership. The paper concludes that higher education administrators who manage the intellectual capital and human resources of their institutions most effectively will provide the model for colleges and universities of the future. (Contains 20 references.) (MDM)

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STRATEGIES FOR UNIVERSITIES IN THE 21ST CENTURY

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James Mauch

STRATEGIES FOR UNIVERSITIES IN THE 21ST CENTURY

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One way to examine strategies for future directions is to look at the past. If we can describe the trends and changes over the past ten, twenty, or thirty years, we can imagine what the future may be like. We can also examine past trends to ascertain if they will continue, abate, or accelerate, and we may ask whether the rate of change is accelerating or not.

A second method used here will be to examine changes in higher education in the context of societal changes--economic, social, political, and cultural. The assumption is that higher education exists within a culture, both a national or ethnic cultural and an academic culture, and that this cultural context will influence the nature and the rate of change, and thus the future of institutions.

We will be concerned with the past and the issues raised above. But that is not enough; a third method will be concerned with the need to bring some judgement to the perception of change, to anticipate the possibility of changes so new that they are not clearly related to past trends.

This talk will concern primarily the future of higher education in the US, not China. You will have to judge whether and to what extent a similar future awaits you. Also the societal context in the US is different from other countries. You will have to judge whether similarities exist, and to what extent your higher education and your society will be subject to the social and economic transformations that appear to be affecting the USA.

We will be concerned with an examination of change, not necessarily desired change. Indeed we might dislike some of the changes, but they will be discussed in any case. For example, traditional cultural values seem to be falling away throughout the world. We may be saddened to see that, but the effects on higher education must be examined in any case.

Changes in society.

Changes in US society over the past years has been great. From the 1950 census to the 1990 census, the population grew from 151 to 249 million, the number and percentage (from 11% to 20%) of minorities grew. The growing diversity will continue in the future. Whites by 2050 will make up barely 50% of the population, while Hispanics will make up almost a quarter and Asians almost 10%.

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The death rate per 1000 population (now about 8.5) has been steady and a small increase is forecast as the population ages. The birth rate per 1000 has been declining, and is now about 15 per 1000. The projections indicate that the net growth from natural increase is declining, due to a declining birth rate and a projected increase in the death rate. The fastest growing sector of the population over then next 50 years will be those over 85. As a percentage of the population, all the age cohorts over age 45 will grow, and younger age cohorts will decline. Increasingly we will have an aging population. Almost a third of our population will be 55 years of age and over by 2050, with enormous impact on voting, and changes in public resource allocations for higher education.

Changes in life-style are many, and they affect our institutions of higher education in terms of the kinds of students who attend, their needs, their demands, their behavior and participation in campus life and governance, and their learning styles. Since 1970 the percentage of those in the general population (18 and over) never married has grown from 16.2 to 22.6, and those divorced from 3.4 to 9.1, and the number of unmarried couples has increased seven fold. The incidence of single parent families has grown, as has the number of divorces, and children without fathers of record. Of family groups with children under 18 years in the US, 31% are single parent families, and among black families and hispanic families the figure is 65% and 36% respectively.

Overwhelmingly the single parent is the mother, and incidence of one parent families with children has been growing in number and percentage, although the rate of growth has slowed in the 90's. In 1997, 56% of white women with children under the age of six had never been married; of black women the figure is 85%, of hispanic women, 75%.

Other social changes, reflected in faculty and student behavior in institutions of higher education, are less quantifiable, but it seems from experiencing change on one's own campus and reading *The Chronicle of Higher Education* every week, that these transformations have grown in the past and will continue to be a strong presence in the future: the gay rights movement; the demand for individual rights; the frequency of litigation involving institutions of higher education and their students, faculty, and administrators; feminism and the growth of women's studies; and the strength of groups representing minorities on campus.

These societal changes, as well as others, will affect institutions differently, and their effects and presence in other cultures will be even more diverse. But few would argue that there will not be profound effects.

Whether the growing diversity in America will lead to growing intolerance and discord, or toward greater acceptance and valuing of diversity, is hard to predict, but certainly change is in the air. There is plenty of anecdotal evidence that the growing older population is generally not enthusiastic about many of these life-style changes, and resist supporting institutions that are perceived as accepting or even promoting non-traditional life styles. Much of the political debate today is concerned with this issue, and the phrase "family values" is regularly used by politicians to label life-style changes that are not popular with the electorate.

The change in voting behavior will not be lost on politicians. In the important election of 1994, which brought the Republican and conservative revolution, 30% of the voting age population voted. More disturbing still is that the distribution of voters was heavily weighted to the elderly and middle and upper income Whites, and those with a college education. Voting rates are much lower among the poor, the young, the undereducated, and minority groups.

Does it mean that the electorate is so turned off that they feel their vote means little? Does it mean that they will not take part in the political process? If so, interest groups, and particularly those with money and power, and the ability to affect voting behavior, will grow in importance. In that climate, higher education is not prepared, nor does it have the money or public support, to do well. Universities may well face an uncertain financial future in which national governments gradually restrict financial support, and shift the costs to the student, family, and local or provincial governments or private enterprise.

Changes in the workforce.

The growth of jobs in the US service sector far out-paced manufacturing jobs in the last decades. During this time a college degree remained an excellent predictor of financial rewards, but the degree has become increasingly a necessary rather than sufficient credential. Even in the service sector, in 1991 one quarter of the college grads earned wages that placed them in the lowest quartile of the American workers. Increasingly the college educated worker is experiencing less job security, and often has to start a career with part-time or lower level jobs. When a full-time job is found these young workers will often be paid 12-15% less in real terms than their colleagues were a decade ago.[2] Not only are the young experiencing job loss and job shift, but also the college educated mid-career persons.

In the future well-paying and secure positions will belong to a small and elite segment of society. It appears that such positions will be beyond the hopes of the majority of workers. This trend is likely to continue in the future as global competition and change accelerates.

Educated workers may have several careers in their working life, and the need to continue education and training, especially in new technology and skills, will become increasingly important. Cooperation between universities and the business will be essential to the provision of education and training, not only to meet societal need, but also to insure modern and relevant training.

At age 65, most workers in the US still have two decades ahead of them, and there is no longer a mandatory retirement age. Thus government policy seems to be to encourage workers to continue to work as long as possible. Full social security and medical benefits for retirees do not start until age 65, and new law revises that age upward. The Social Security and Medicare trust funds are already in deep trouble and to the extent that workers postpone retirement, theses funds are relieved of liability.

Still, over the past several decades, the average age of retirement has been going down, but that seems to be a function of periodic reductions in force and mandatory or encouraged early retirement programs, as well as voluntary retirement decisions. Many workers, now the majority, continue to work in another job after "retirement". Increasingly, a return to some post-secondary education is a choice adult members of the work force can make, thus creating opportunities for universities.

Changes in higher education.

In 1950 there were in the US 1,850 institutions of higher education with 2.3 million students. Of the population over 24 years of age, 2% had earned a bachelor's degree; forty years later the census counted 3,559 institutions and 21% of the age group had earned a bachelor's degree. The growth in degree granting has continued (CHART 1), fueled in part by a growth in the number of young (CHART 2). During this period, an important change in the demographic distribution was the growth in percentage of women and adult learners[3]. There are now more women than men students, and that increase will continue.

Community colleges and two-year technical institute are growing segments of higher education. These are the low cost providers of service, more client oriented, and they provide in a short time the skills needed for the job market. Thus they are among the most open to business-education cooperation, and in some ways have been on the leading edge of the development of such links.

The growth in both enrollment and budget is a long term future trend. In many cases the state appropriation for higher education have not kept up with inflation ever the past ten years, and this is particularly true if community college funding is removed from the calculations.[4]

Tuition and fees have risen particularly in 4-year colleges and universities, even in constant dollars (CHART 4). That trend will probably continue, and it contrasts with recent expenditure patterns (CHART 5), which indicates that higher education is in an increasingly competitive environment for state funds. The modest projected increases in state revenues are being consumed by other demands. Dramatic growth in Medicaid, with its strong voting constituency, resulted in an increase of this program's share of the state budgets from 10% in 1987 to 17% in 1992, displacing higher education as the second largest category in state budgets. A similar story can be seen in prison expenditures.

An economic downturn could have grim consequences for access to higher education, and for those who work in higher education. Contrast the lack of growth in state expenditures in 1989-1994 with the rapid increase in tuition at 4-year colleges in the same period[5].

The future may see the power of the market grow; that certainly has been the recent past worldwide. In this decade, the role of the central government has been receding, private institutions are springing up where they did not previously exist, and the growth of private

institutions has been strong, even in China, the former Communist nations, and part of Latin America which in former times made higher education the province of the State.

If market forces become more powerful in the provision of higher education, one can expect several results. Institutions may become more segmented, with one tier serving the wealthy elite of society. Another tier might serve the working class who need a brief, specific job-oriented education in order to find work. They will seek training in business and industry, community colleges, technical institutes, and vocational and technical schools. The third tier might be the research universities, especially those with the endowments and other income streams necessary to attract and keep outstanding researchers, faculty, and students.

Powerful market forces will also tend to keep university education, particularly with respect to universities of the first rank, beyond the reach of many students, perhaps even more so than is the case today. China, East Europe, and even the US seem to be moving in this direction. As tuition is raised in real terms, and as state support to institutions and students declines in real terms, the squeeze will be on the poor and middle class. Few will make it, and those who do will have uncommon intelligence and preparation, or extraordinary sacrifice and support from friends and family, and probably all of the above. If this happens, our society will become increasingly bifurcated, with a small and privileged elite, a large under-class struggling to survive, and an under-developed middle-class striving to reach up and desperately hoping not to fall back.

Studies of public perceptions indicates that trouble is ahead. The public seems to have little sympathy for higher education's budget woes. Both community leaders and others think higher education could do more with less money. There does not seem to be a constituency for raising or even continuing public support at present levels.[6]

The future will require more self reliant institutions, and more reliance on the corporate partnerships. This is due to several factors. First, the growing conservative nature of the electorate which sees the benefit from higher education as more personal than social, thus requiring more financial input from the person benefitted. Second, the strong and expensive competing demands on public resources from prisons, health care, and other areas of State responsibility. Third, the resistance to tax increases from the electorate. Presently, State appropriations for higher education are just keeping up with inflation, with few resources for new programs or new growth[7].

Suggested strategies for universities in the 21st century.

Emphasis on Quality. The world is highly competitive for universities, as well as other enterprises. If they do not compete they will fall behind, lose market skills and knowledge, and will not be on the cutting edge in the world of science, information, and intellect. Competition will cause universities to focus on core competencies, to build on strengths, to strive to be the best in the country, or at least in the region, in a chosen discipline or field of study.

The future of the great research universities will be related to quality. In a global economy, outstanding students will more and more seek the highest quality education and training, and the competitive edge high quality institution have will make them very powerful. Students now come to high quality institutions from all over the world, and they will do so more in the future. In an increasingly competitive world, some institutions will fail. That is not likely to happen to high quality institutions that define their strengths and serve their clients well. Increasingly quality will be defined by the client, as it is in the market.

Who is the client? The ability of the university to define its market and its clients will be crucial to its survival. Clients may include the government, students, parents, alumni, corporations, and industry. These clients are becoming more demanding, more assertive, more cost conscious, more interested in accountability, and more insistent that universities provide an education which will lead to successful careers.

Successful institutions will continually strive to increase client satisfaction while controlling costs. Everyone in the organization must be committed to client satisfaction, and involved in the implementation until it becomes part of the institutional culture. The central focus will be on client, and all employees will be aware that they have clients to be served and satisfied. Increasingly, clients will drive the market, not the service providers. Strategic planning will help universities define their strengths and their clients; to be successful this planning will have to be constant and continuous.

Transforming (reforming, restructuring) universities. The transformation of universities will result from the drive for quality and client service. Such institutions will become quicker, more flexible, and more innovative. They will be more hospitable to talent than at present, seeking ways to attract and keep talent, empower talent, and free up talent to research, explore, invent, and innovate. Work will be rewarded more on the basis of results than on activity. Universities will have to increase productivity and learn to work with the corporate and other sectors of the economy. Those that do so with corporate participation and support will be at a competitive advantage[3].

At the University of Pittsburgh, for example, this cooperation is valued and growing. In fiscal year 1997, income from sponsored awards activity grew to $269,000,000. These funds were competitively awarded, based on the quality of the proposals, and the competence of faculty to do the research, dissemination, and development required. The University has maintained competitive national rankings in research funding. It is in the top 15 of awards from the National Institutes of Health, for example.

More important to the subject of this paper, however, is the growing support for research, dissemination, and development from commercial sources. In FY 97, this grew to 11% of total sponsored-award funding. The evolving nature of academic-industry relations continues to be discussed, including a focus on discovery science, an attempt to concentrate limited resources in pre-identified technical areas with perceived high payoff.

According to the Office of Research at the University of Pittsburgh, a number of factors have contributed to the formation of new research relationships. First, faculty have been encouraged to pursue industry partnerships, including linkages with federally funded small business innovation and technology transfer programs. These new research relationships are also seen in the steady growth of pre-clinical trial support from major pharmaceutical corporations as well as biotechnology companies. Also, University policy on entrepreneurship has promoted direct business formations by faculty, developing intellectual property with commercial potential. The University has also had success in outreach to firms that have mutual interests in specific technical collaboration leading to sponsored research.

The Office of Research at the University also uses a variety of administrative techniques related to electronic research administration. For example, the University is a registered user of the National Science Foundation electronic information gateway, "FastLane" and electronic only proposal submissions. The Office continues to monitor electronic initiative government-wide, including participation in sessions dedicated to the development of a common data interfac among major federal funding agencies, using electronic data interchange protocols. The University also belongs to Community of Science, an electronic vendor that maintains faculty interest profiles and an increasing array of links and related services pertaining to research endeavors. These are simply some of the activities of one university to maintain and increase academic-corporate links and mutual benefit and support.[9]

The transformed university will see that corporate links and partnerships are essential not only for continued research support, but also for the technological advances that will keep universities modern in knowledge discovery as well as dissemination and availability. These partnerships will transform teaching and management to become more based in technology, and more cost effective. Thus, new partnerships can help the transformed university in more ways than providing research contracts and making corporate donations. A real partnership will foster the exchange of ideas, management information systems, research methods, as well as new technologies and applications.

Internationalization and globalization. Universities by their very nature are universal and they and their disciplines and professional schools must be open to ideas, issues, and research from throughout the world if they are to be modern, scientific and of long-term significance to national development. Science respects no national or political boundaries. By its very nature, it depends on free and broad dissemination of results that allows scientists everywhere to profit from the work of others, to critique and examine that work, and to try to add to it.

Often this means encouraging international participation, e.g. encouraging student and faculty exchange programs, bringing international concerns to teaching, research and service activities of an institution, and it means constant efforts to reduce parochialism and to open institutions of higher education to new ideas and international views. Historically, the great universities, and the great national periods as well, were earmarked by a reaching out globally, a welcoming on innovative ideas from wherever they came, an openness to foreign thoughts and

science, and an eagerness to borrow, adapt, and eventually adopt ideas and knowledge from the world. This attitude and stance is the opposite of parochialism, isolation, decay.

As nations and citizens increasingly recognize the interdependence of people, media, national security, and economic growth in the world, the flow of students teachers, and researchers between universities of different countries, will become more common[10]. Universities will increasingly compete for outstanding foreign scholars and students, and attempting to internationalize their curriculum for the purpose of improving their ability to prepare modern, scientific, and competitive societies, faculty, researchers, and students.

With respect to the USA, according to the Institute of International Education's Open Doors[11], in 1954-55 there were 34,000 students from overseas in the United States. They constituted 1.4% of US enrollment. Thirty-five years later that number had increased more than tenfold to about 386,851 students from overseas. The number may be higher because of the way foreign students are counted, but the important thing about these figures is that the percentage rose to 2.8% of the total enrollment in higher education. Thus foreign students not only make up an important segment of higher education in the USA, but a growing segment as well.

In the United States, the tradition of foreign students on campus is generally supported by the faculty and domestic students, and foreign students are often assisted in locating living accommodations by the university or by community groups. For private, and state institutions which charge high out-of-state fees, foreign student tuition payments make a significant contribution to the viability of the institution.

Foreign students are of critical importance to some advanced fields, particularly the physical and natural sciences, business administration, engineering, and computer sciences. As the number of U.S. citizens earning science and engineering doctorates has been declining, their places have been taken by foreign students. Foreign students with temporary visas earned 30% of all physical science Ph. D.'s and 45% of the engineering doctorates in 1988. In some large research universities, foreign students actually outnumber domestic students in doctoral programs such as, business and engineering. If the trend continues, it may be that the majority of faculty members in these areas will be foreign nationals or immigrants since future faculty members are prepared in doctoral programs. For example, Pool[12] found that in 1985, two-thirds of all post-doctorate engineering positions went to non-U.S. citizens.

At the University of Pittsburgh, perhaps not an atypical urban research university, a recent study found that there were 1,700 foreign students (nearly 7%) on the main campus[13]. Over 300 were undergraduates, and more than 1,300 were graduate students. Most of the graduate students were in the professions, with about half of the undergraduates in the professions schools, mainly education and engineering. The other half may have been in pre-professional courses.

Internationalizing the curriculum is a part of the future also. Already US corporations, in describing expectations for recent college graduates, are beginning to value second language

proficiency more highly. Recent emphasis on multi-culturalism and diversity in the curriculum is seen by corporations as positive preparation for work in an economy with few borders.[14]

Focus on technology, knowledge production, and knowledge availability. Man is a tool builder, and the computer is the most remarkable tool yet invented. With it man will build new models of science, physics, geology, space, the human brain, human behavior, and social interaction. It is difficult to imagine the apparently unlimited possibilities of this tool. No doubt there are newer, yet undreamed of, offsprings of this tool which will some day succeed it. If science changes in the future as rapidly as in the past we can hardly imagine the world of the university in 50 or 100 years. But is seems likely that in the near-term future all faculty, students, and most staff will have computers and internet, and this will transform the way we learn, teach, inform, share knowledge and make it available. The computer is already the indispensable teaching tool, research tools, knowledge tool, empowering individuals to engage more fully in research and other aspects of academic life.

University of the future will use the computer in all aspects of its work, in all processes. Indeed that is increasingly true of business and industry, and of government. Networking can now be used by scholars at universities and corporations located in different continents to work on common research problems and share knowledge and findings. Thus we can be entering a new era of cooperation between industry and universities, enabled and encouraged by the increasingly complex and expensive need to keep up with advancing technology, knowledge production and availability.

Students will learn about the world through a multimedia approach which will provide so many opportunities not available in life, or available to very few. Multimedia simulations will help students experience hospitals, operating rooms, various aspects of the world of work, including professional work, and this can be done in various countries and cultures. For example, Brigham Young University is using computer multimedia programs to teach foreign languages so that the student experiences the total immersion through simulated living experiences in another culture. Programs can include many languages for whom native speakers are not available for instruction, such as Quechua, Aymara, and Maori. Programs now in use include a tutorial program in Arabic orthography, grammar, and pronunciation using verses from the Koran. Another program, for students of Chinese, uses Pinyin system of transliteration. Students can hear syllables and words, see them written in chinese characters and Roman transliteration, and watch a graphical illustration of rising, falling, or level tones required for correct pronunciation.[15]

The classroom of the future will be student-oriented and wired for multimedia learning. Each work-station will have a powerful computer and a classroom file server. There will be a powerful projection system, cable and satellite down-link, laser disk and a sophisticated media distribution system that broadcasts videos on demand. CD roms and headsets will be a part of every work station. Tutorials and tests can be taken on line. Chemical and biological, medical, or physical properties and processes that before could never be seen or graphically and realistically presented can now be presented in the learning center by using resources above as

well as animation Instruction can also be enhanced by student use of world wide web to access such subjects as corrosion phenomena, microscopic anatomy to mention a few of the topics available.

The university of the future will increasingly provide instruction by e-mail. Already a new MBA program has started at Colorado State University for students who cannot physically be at the university. Students attend class via VCR and file homework on e-mail. George Washington University offers an on-line master's degree in educational technology leadership. The program uses the same texts as attending students use, offers lectures on satellite TV, sends papers through electronic bulletin boards, talks with professors and classmates via e-mail.

The correspondence courses have become high-tech also. Four million Americans are improving their skills and credentials by using their PCs for distance learning. *US News and World Report*[16] reports that there are some 75 colleges and universities offering on-line degree programs, according to a tally by CompuServe. Britain's Open University and the University of Massachusetts recently started an on-line course for the World Wide Web. Peterson's Guides recently published The Electronic University. Even Harvard offers incoming MBA students refresher exercises over the World Wide Web.

One trend which we can expect to grow in the future is corporate presence as important educational institutions. Spending on corporate education has been growing by 5% per annum for years, reaching this year 50 billion dollars, accounting for about half of us total expenditures on higher education.

According to *The Economist*, US companies have learned three characteristics of the modern work-place: one, companies cannot guarantee workers lifetime employment; two, the most important asset for the worker and the company is knowledge; and three, as technology and jobs change ever more swiftly workers continually need to learn new skills. Many corporate classes are transferable to universities. In many cases, corporations are granting their own degrees: of 100 companies with well developed programs, a third plan to offer degrees. Others are doing so in connection with universities and colleges, e.g. Motorola and Northwestern University, American Express and Rio Salvo Community College, Nynex and SUNY.

The largest growth at present is in corporate management schools, such as those run by IBM, Disney, Sun Microsystems, Sprint, and McDonald's. Some of these such as IBM are using internet to market their courses, and at Sprint, most classes take place via satellite or on computer programs provided by the company[17]. Corporations, which spend billions of dollars annually on formal training, are among the strongest supporters of such instruction. In the future one can expect this trend to continue, and it will offer both increased competition and increased opportunities to earn money, gain students, and make curricula and teaching methods more relevant, interesting and modern.

Internet, global sharing, networking, knowledge sharing, skills, processes, research and developmental ideas, access data sources across nations and continents instantaneously. The

Develop and retain intellectual assets. In a new book entitled[19], *The Wealth and Poverty of Nations*, David Landes examines the forces that separate the rich from the poor nations. In doing so, he credits the industrial revolution for providing the engine for wealth in nations, and that depended on three conditions: first, autonomous intellectual inquiry flourished; second, empiricism, which combined perception with measurement, was embraced; and third, research was routine and respected by society. Thus societies which flourished tended to be those that attracted, retained, enabled, and rewarded intellectual assets. Under thee conditions, of course, the great universities of the renaissance also grew and flourished.

We have moved into a world where the most important national resource is intellectual talent. Commentators have observed, for example, that some of the richest and most modern countries, such as Asia's "tiger economies" are characterized by a lack of natural resources such as iron, coal, oil, and other minerals. Not having natural resources, perhaps these countries concentrated on intellectual resources. Others, such as Liberia, Guinea, and Sierra Leone gush with natural riches: diamonds, bauxite, gold, iron, rubber, and dense tropical forest. Yet in all three, people barely scratch out an existence, and live in horrible squalor[20].

Some of the poorest countries are filled with natural resource wealth and an under-educated, poverty stricken population. The talent is there but it has not been developed. Human capital is the important influence, and this capital is created by the development of the intellectual ability, knowledge, values, and skills of the people which make up the country. Such development is the role of the universities, and to waste such an opportunity to develop talent would be a terrible loss. The successful development of human talent may be viewed as the difference between the developed and the underdeveloped countries.

As intellectual capital becomes recognized as the asset of the future, universities will begin to realize that their most important asset is the student body and the university work-force, not only the faculty, but the entire work-force. The university is after all a learning environment, and the capital of the university is the knowledge, skill, and intellect of the work-force. The product is an essential service, and the clients are the students (also often members of the work-force), the government, community, corporations, and the nation.

University administrators who manage these assets best will provide the model for university management in the future. They will do so by nurturing an academic culture that reinforces academic and human values, that provides incentives for intellectual improvement and development, that fosters a learning environment, and fosters trust, caring, the importance of the individual and the group, and the interdependence of intellectual contributions. These are important goals; some university managers are far from realizing them, but the future will reward those who strive to succeed in reaching these goals.

Asserting the importance of moral leadership. Universities cannot enter the brave new world of the coming century without taking some responsibility for moral leadership. In the long run, those that do so will be more successful and more valuable to their societies, teachers, and students. All the technology, modernism, intellectual talent, and scientific accomplishment will not form Plato's concept of education "that makes good men, and that good men act nobly."

This moral responsibility may be the most difficult of the challenges faced by universities in the future. This responsibility is carried, out in the first instance, in the way teachers, managers, and other employees act toward one another. There is a personal responsibility we owe to one another in the university community: honestly, truthfulness, helpfulness, and behavior which engenders trust and brings honor to the university. Unless we can exhibit this behavior in the university community toward one another, and toward students, there is little we can teach others about moral responsibility.

Teaching moral values will always run the risk of indoctrination, of being seen as intruding into the lifestyle of others, or of imposing views in a manner that conflicts with intellectual freedom, the value so basic to the meaning of the university. But whether they wish it or not, universities will affect the moral development of their students by the discussions in the classroom, by requiring the teaching of ethics within the curriculum of professional preparation, by a willingness to avoid or to confront moral issues, by avoiding hard choices and discussions, by their response to political pressure, and by the conditions, at times secret, under which they accept money.

These are difficult choices, and we cannot expect perfection, but in many societies, including American society, the university is one of the few organizations which has the relative freedom, indeed even the task, of exemplifying and teaching moral values to young men and women as a part of their professional education and life formation. It is during this formation that the university has the opportunity to help the student begin the journey from a moral ideology or abstraction to a personal sense of ethical responsibility. Such a journey must be undertaken, I would argue, by each person in order to become whole. Not that everyone will find the same answers or be led to the same conclusions, but that each begin the journey. Without this, the concept of responsibility to colleagues, to students, to the university, to family, to children, to community, to society, and to public service, have little meaning beyond a superficial facade.

It is not possible at this point of such rapid change in moral values to see how universities will exert moral leadership in the future, but I believe the most distinguished universities will find ways to do so. One thing does seem clear to me: that it will depend in large part on the leaders of universities to exert their influence, and to meet their responsibilities to set clear priorities that will support the university's role in examining, teaching, and confronting the great moral issues of our times.

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